

CLAIMS:

1. A dialyzer inlet header comprising:
a body that is designed to be attached to an end of a dialyzer;
an inlet channel providing fluid communication from an exterior of the dialyzer
5 to an interior of the dialyzer, the inlet channel defining a fluid flow path that is axial to
a fiber bundle located in the interior of the dialyzer; and
at least one member for modifying the fluid flow path of a fluid as it exits the
inlet channel.

10 2. The dialyzer inlet header of Claim 1 wherein the member for modifying
the fluid flow path is a curved vane extending from a portion of the body.

3. The dialyzer inlet header of Claim 2 including eight vanes.

15 4. The dialyzer inlet header of Claim 1 wherein the inlet channel is located
at a center of the body.

5. The dialyzer inlet header of Claim 1 wherein the header is sealed to an
end of a dialyzer casing.

20 6. The dialyzer inlet header of Claim 1 wherein the member for modifying
the fluid flow path is a curved channel extending into a portion of the body.

25 7. The dialyzer inlet header of Claim 6 including eight channels extending
into the body.

8. The dialyzer inlet header of Claim 1 wherein the member for modifying
the fluid flow path obstructs the flow of fluid as it exits the fluid channel.

30 9. The dialyzer inlet header of Claim 8 wherein the member for modifying
the fluid flow path is a disk located under an exit opening of the inlet fluid channel.

10. The dialyzer inlet header of Claim 9 wherein the body includes a plurality of curved vanes.

11. The dialyzer inlet header of Claim 9 wherein the body includes a plurality of curved channels.

12. A dialyzer comprising:

a body defining an interior and having a first end and a second end;

a fiber bundle located in the interior;

10 a blood inlet located at the first end and including a fluid flow channel that causes the blood to flow in an axial direction with respect to the fiber bundle; and

a member located in juxtaposition to the blood inlet that causes blood to flow to a perimeter region of a first end of the fiber bundle.

15 13. The dialyzer of Claim 12 wherein the member is a curved vane extending from a portion of the body.

14. The dialyzer of Claim 12 wherein inlet channel is located at a center of the body.

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15. The dialyzer of Claim 12 wherein the header is sealed to an end of the dialyzer body.

16. The dialyzer of Claim 12 wherein the member is a curved channel extending into a portion of the body.

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17. The dialyzer of Claim 12 wherein the member is a disk located under an exit opening of the inlet fluid channel.

18. The dialyzer inlet header of Claim 17 wherein a plurality of curved vanes.

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19. The dialyzer of Claim 17 wherein the member includes a plurality of curved channels.

20. The dialyzer of Claim 12 including a dialysate inlet and a dialysate outlet that define fluid flow channels that are radial to the fiber bundle.

21. A dialyzer header comprising a body member having an inlet channel providing fluid communication from an exterior to an interior of the header, the inlet channel defining a fluid path that is axial to a casing of a dialyzer to which the dialyzer head is attached and the body member including a plurality of members that impart a circular motion to the fluid as it enters the interior of the header.

22. The dialyzer header of Claim 21 wherein the members are a plurality of curved vanes.

23. The dialyzer header of Claim 20 wherein the members are a plurality of curved channels.

24. The dialyzer header of Claim 21 wherein the members include a device that obstructs the flow of the fluid into portions of the interior of the header.

25. The dialyzer header of Claim 24 wherein the device that obstructs is a disk located under the inlet channel.

26. The dialyzer inlet header of Claim 21 wherein inlet channel is located at a center of the body.

27. The dialyzer inlet header of Claim 21 including eight vanes.

28. The dialyzer inlet header of Claim 21 including eight channels extending into the body member.

29. A method for providing dialysis comprising the steps of passing blood through a dialyzer that includes a blood inlet that defines an axial flow path with respect to a fiber bundle located in the dialyzer and modifying the flow path as the blood enters the dialyzer to increase the flow of blood to a perimeter of an end of the fiber bundle.

30. The method of Claim 29 wherein the flow path is modified by passing at least some of the blood through channels.

31. The method of Claim 29 wherein the flow path is modified by passing at least some of the blood through a flow path bounded by vanes.

32. The method of Claim 29 wherein the flow path is modified by preventing the flow of the blood directly from the inlet to the fiber bundle.